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ABSTRACT

The purpose of this study was to investigate the impact of pretesting results on the future learning behavior of graduate students of a university. The teaching technique used was pretesting to assess student entry behavior. Considered in the study was the effect on student behavior of the instructor informing the class they had failed to meet the criterion for the mastery of some specific content which would have to be retested. The results of this study supported the hypothesis that pretesting as a teaching practice in this class influenced student behavior to seek out information after the results were made known. Student discussion after the purpose of the study was made known to them supported this conclusion. The results of the study indicate that pretesting and feedback of results can assist students in assuming responsibility for their learning. (JA)

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THE IMPACT OF PRETESTING ON LEARNING

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THE IMPACT OF PRETESTING ON LEARNING

One important implication for instructional practice is the need for the development of techniques for the identification and analysis of what students in a specific classroom or course of study need to achieve in terms of instructional objectives involving knowledge or skills. Several writers indicate that the instructor must be able to assess the relevant characteristics of his learners at the time they enter a course, as well as periodical testing throughout the learning sequence (Ausubel, 1967; Bloom, et. al., 1971; De Cecco, 1968; Gagne, 1965; Glaser, 1969; and Mager, 1962). In general, these writers would support the notion that once the nature of the task to be learned and the entering learning characteristics of the learner have been identified and described, the conditions under which learning will occur can be more adequately specified.

Such entry assessment will allow the instructor to ascertain the readiness of his learners for specific learning tasks. Pretest utilization and discussion of results will assist in realistic and mutual planning by both the instructor and his students. In some instances the pretest results will indicate that the class as a whole or selected individuals already have sufficient knowledge of the task to be taught, thus requiring modification in instructional planning. In other instances the pretest results will support the need for teaching a specific unit of knowledge. Such a procedure protects against wasting of valuable time by teaching what is already known,

as well as avoiding adverse student motivational effects resulting from cognitive boredom, affective restlessness, and psychomotor strain of the gluteus maximus.

PURPOSE OF STUDY:

The purpose of this study was to investigate the impact of pretesting results on the future learning behavior of a graduate class of university students. The teaching technique of using pretesting to assess student entry behavior was utilized in the course. If the class, as a group scored to criterion for the instructional objective on the pretest, the instructor would move to the next instructional objective; however when the group failed to achieve the criterion, the instructor would teach to that objective. What was not known in this latter instance was the extent to which students would attempt to obtain the unknown information prior to the next class. The basic purpose of this study was to determine the effect on student behavior of the instructor informing the class that as a group they had failed to meet criterion for the mastery of some specific content, and that the instructor would teach to the task in one week. Would the impact of such feedback cause students to acquire the needed knowledge on their own prior to class, or would they wait for the instructor to provide the data the following week ?

PROCEDURE:

Subjects: A graduate class in special education consisting of 16 students (10 females and 6 males) served as the subjects for this study. The class met once a week in the evening for a three hour period at a large university located in Southern California.

Procedure: The senior author was the class instructor who developed, administered, and scored the pretests used in the course. Pretests were always administered at the start of the class session with feedback of results to the class at the end of the class session. It was at this time that the instructor would state the learning objective for the next class session. The criterion for group passing was 80 % correct of the required responses by at least 12 members (75%) of the class. Prior to the time of this investigation, the class had achieved criterion on two previous pretests and failed to achieve criterion on two others.

Pretest-Retest paradigm:

This was the fifth pretest developed for the course and was administered during the start of the sixth class session of the course. It was a written test requiring 25 responses for a possible total score of 15 points. The required responses were short identification and completion items that measured understanding and knowledge about nine professional organizations concerning the education and training of exceptional children. The original pretest instrument was used as the retest instrument the following week.

Treatment: No specific instruction was given to the class other than the opportunity to see their pretest papers on the night they were informed that the instructor would need to teach the necessary content next week. The pretest papers were not collected but left with the students.

Design and Treatment of Data: A simple repeated measures design using the same instrument but administered one week later was used to measure student responses. The results of the pretests and retests were treated statistically by a simple two-tailed correlated mean t-test.

RESULTS & DISCUSSION:

The correlated mean t-test result was found to be statistically significant at the .001 level. Table 1 provides the data concerning statistical treatment.

TABLE 1

PRETEST-RETEST MEANS, STANDARD DEVIATIONS, AND t STATISTIC

N	PRETEST		RETEST		df	t
16	Mean	7.88	Mean	11.94	15	4.81 *
	s.d.	3.20	s.d.	3.24		

* $p < .001$ level (4.073 required with 15 df)

The results of this study supported the hypothesis that pretesting as a teaching practice as used in this particular class influenced student behavior to seek out information after the results of a pretest were made known. In addition to feedback of results concerning class

performance, the instructor provided verbal information that he would need to teach the content assessed by the pretest the following week because the class failed to meet criterion. The one week interval between classes allowed the students to take corrective action if they so desired. This situation differs from the case where an instructor might use a pretest the same evening that he would make a decision to actually teach at that time if criterion was not achieved. It appears that a pretest with a delayed retest feedback paradigm might provide some instructional advantage not obtained in a pretest and immediate teaching paradigm. The former design would allow for a savings in instructional time and enhance student motivation and responsibility for self directed learning.

After the retest, the instructor took time to discuss his actions with the class members and explain the purpose of his experiment. Class members were interviewed individually as to what actions they had taken during the previous week and the reasons why. Their responses are tabulated below:

NUMBER OF SUDENTS	REASONS CITED
7	Indicated shame in not knowing the answers about organizations in their major area of study.
3	Felt it was a students responsibility to seek out informatuon which is not known.
2	Felt they might get retested.
1	Fear of the instructor.
3	Did not really "give a damn".

An analysis of the reasons cited indicated that 13 of the 16 students took various degrees of corrective action to get some information, either through library research or discussion with other class members.

SUMMARY & CONCLUSIONS:

It can be stated that the use of pretests and retests can be used by college instructors to enhance their teaching methods and techniques. The same might be said for high school and elementary school where the focus would be on knowledge per se. Pretesting should be made part of the teachers modus operandi to enhance student motivation and responsibility for self directed learning as well as to assure effective utilization of time.

Results of this study indicated that pretesting and feedback of results can assist students in assuming responsibility for their learning, and that students for a variety of reasons will assume responsibility for directing their own learning, but they need to know what is expected of them in behavorial terms.

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